



Research Methodology

The Complete Handbook

Hello!

Your instructor

Sam Mahmud

Who should learn this course?

- Thesis
- Dissertation
- Research Papers

Students

- Market research
- Knowledge seekers

Professionals

- Teaching
- Further research

Faculty Member

What and How will You Learn?

▷ What

- **Key contents** of Research – not overwhelming amount of information but straight to the point.
- The complete handbook of all you need to know about conducting research in almost any industry/field.

▷ How

- Structured lectures
- In-depth examples, have been incorporated to explain procedures and methods.

Contents



01

Basics of Research

02

Research Problem

03

Research Design

04

Sampling

05

Data Collection
Methods

06

Research Proposal

07

Data Collection &
Analysis

08

Research Report

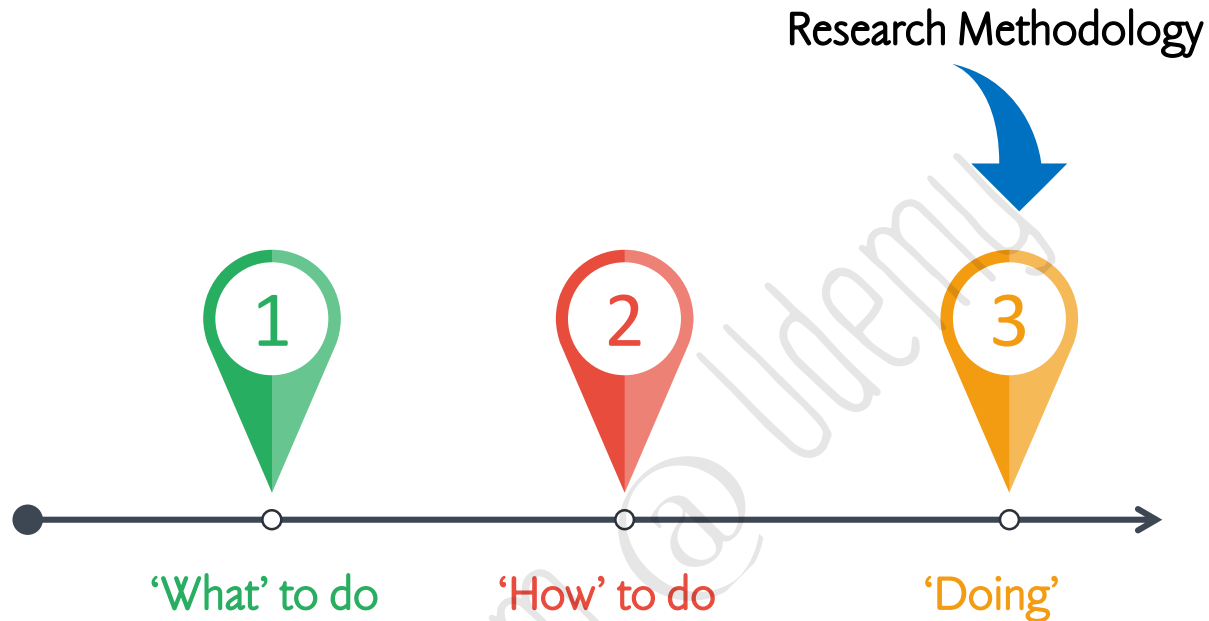


Let's Begin

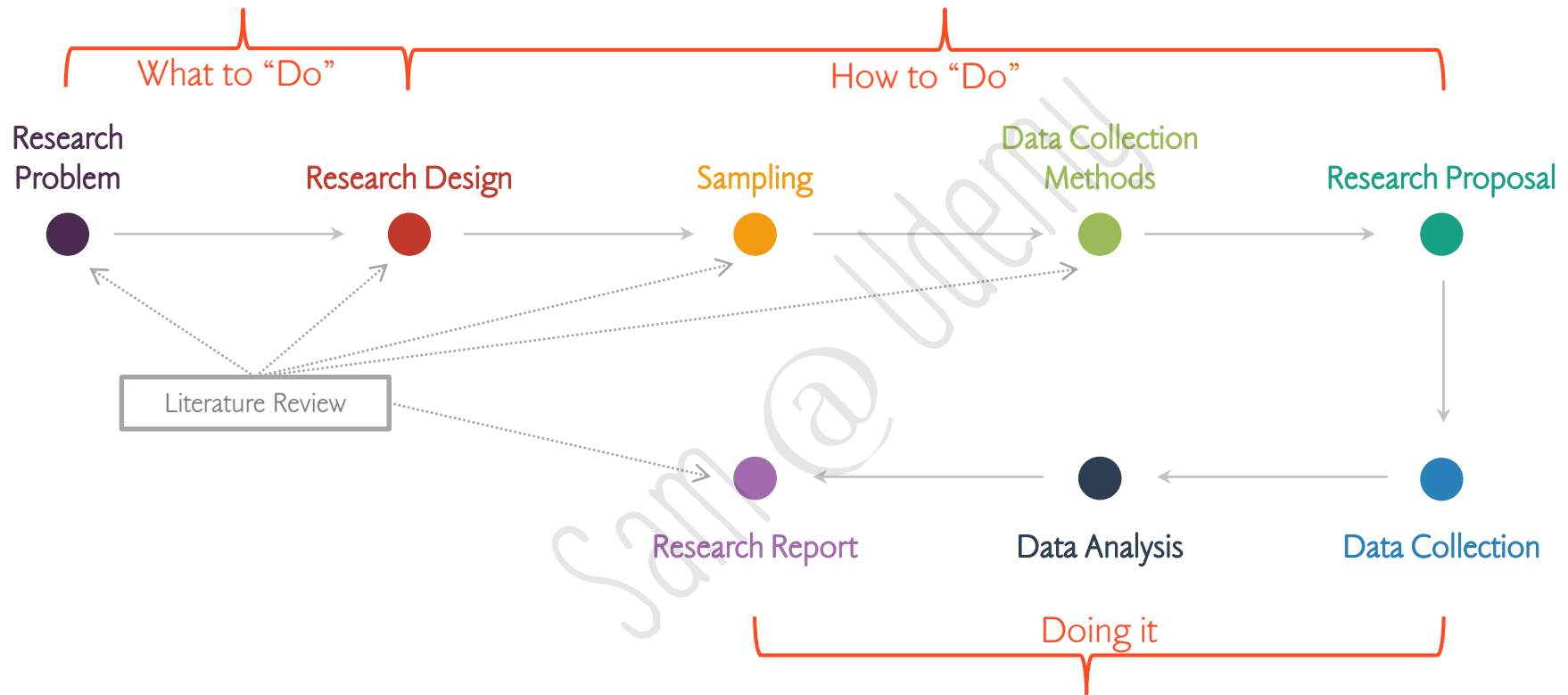


Research Process

The Research Process



The Research Process Infographic



Contents



01

Basics of Research

02

Research Problem

03

Research Design

04

Sampling

05

Data Collection
Methods

06

Research Proposal

07

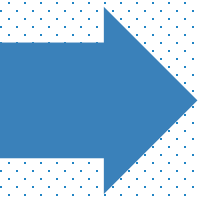
Data Collection &
Analysis

08

Research Report

Chapter 1

Basics of Research



Learning Outcome

1. Understand about Research
2. Application of Research
3. Criteria and Characteristics of research
4. Types of Research

What is Research?



Research takes place in.....



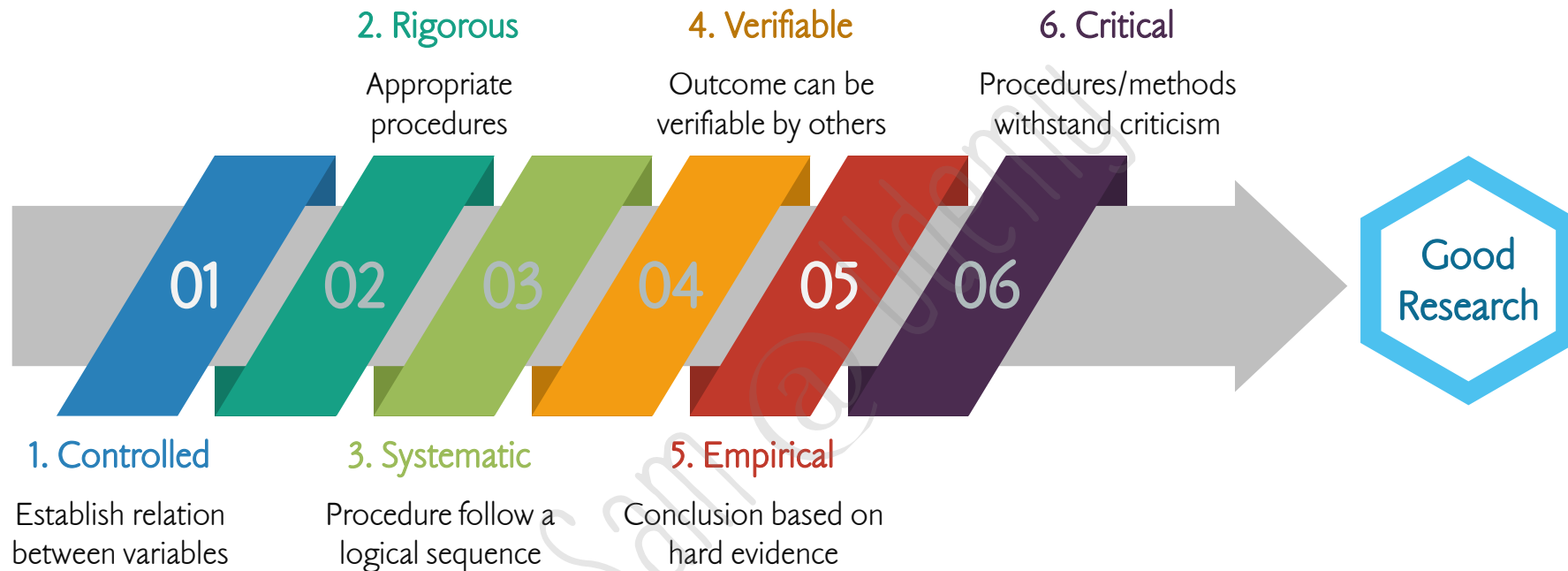
Research Example



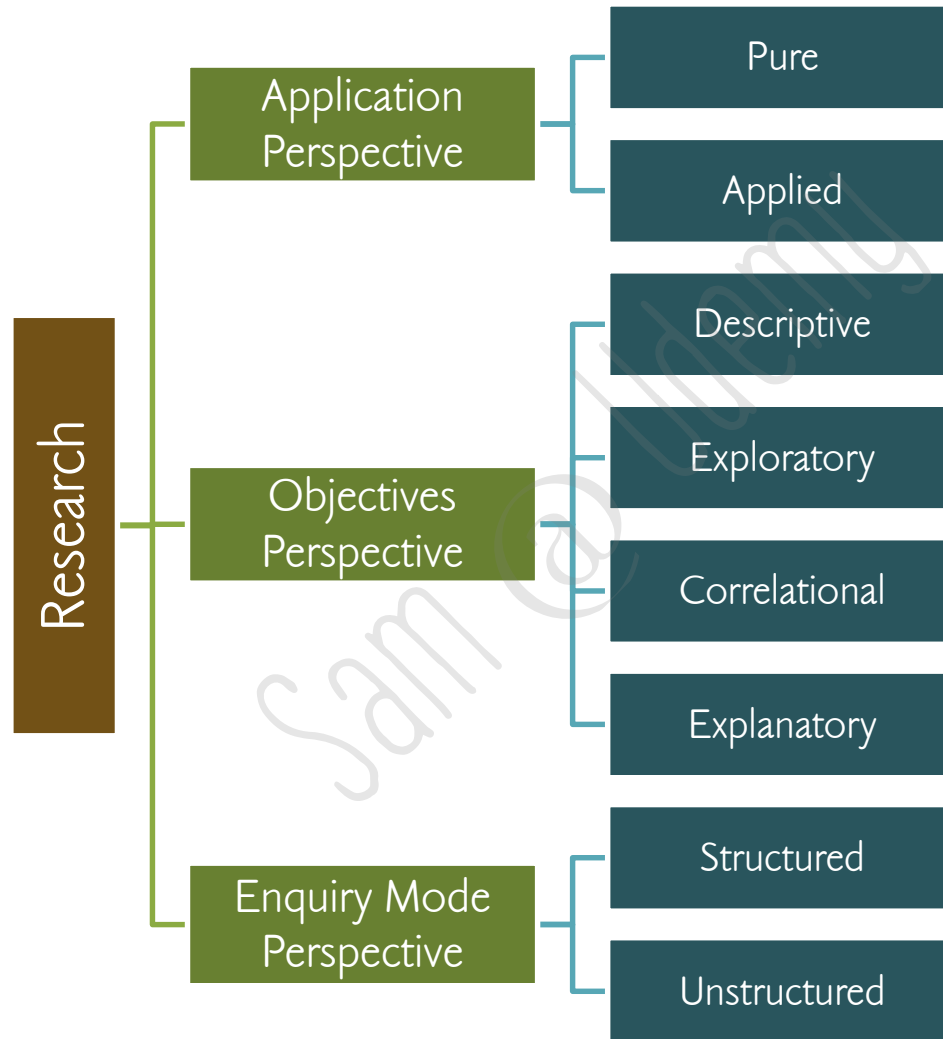
Criteria for Conducting Research



Characteristics of Research



Types of Research



Types of Research (by Application)

Pure

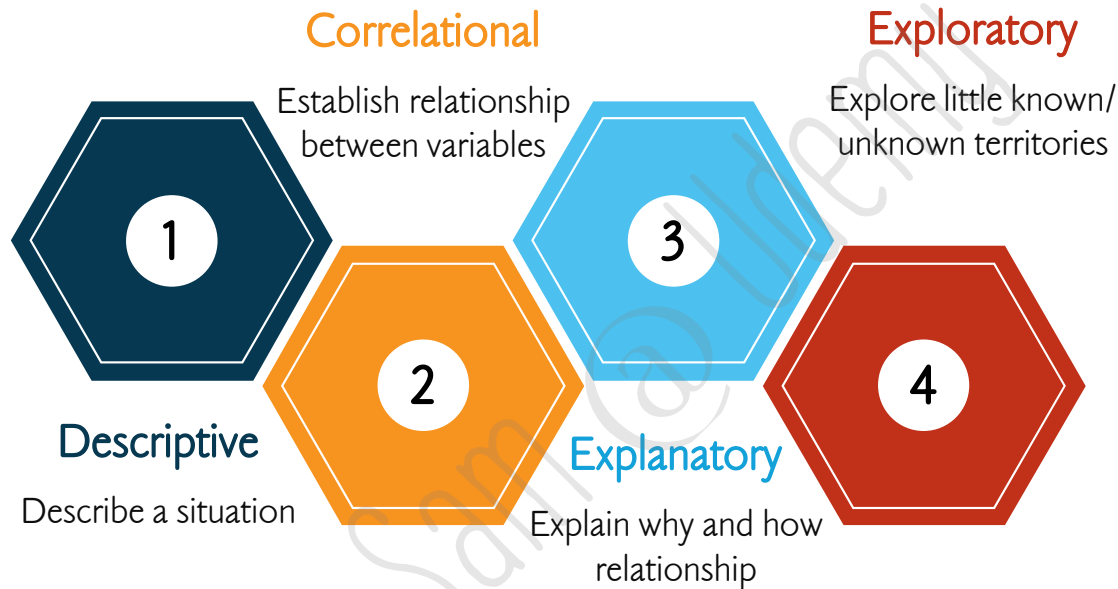
Test new theories
Add to existing knowledge



Applied

Explain a situation/phenomenon
Impact of 'X' on 'Y'

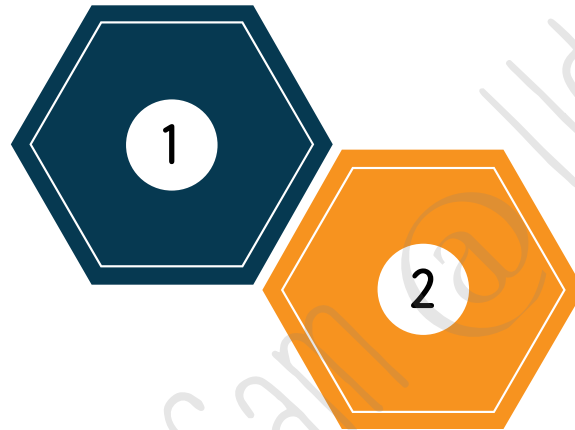
Types of Research (by Objectives)



Types of Research (by Mode of Enquiry)

Unstructured (Qualitative)

Flexible research design
Determine extent of the problem



Structured (Quantitative)

Predetermined research design
Determine magnitude of the problem

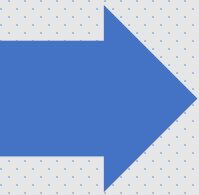
Review

What have we learned?

Chapter 2



Research Problem



Learning Outcome

1. Literature Review
2. Research Problem
3. Variables
4. Hypotheses
5. Operational Definition

2.1

Literature Review

Literature Review in a Nutshell



Kick off identifying problems/gaps activities

- Establish background
 - Identify gaps/links
- Add to existing knowledge



Conceptualize your study

- Variables affecting your study



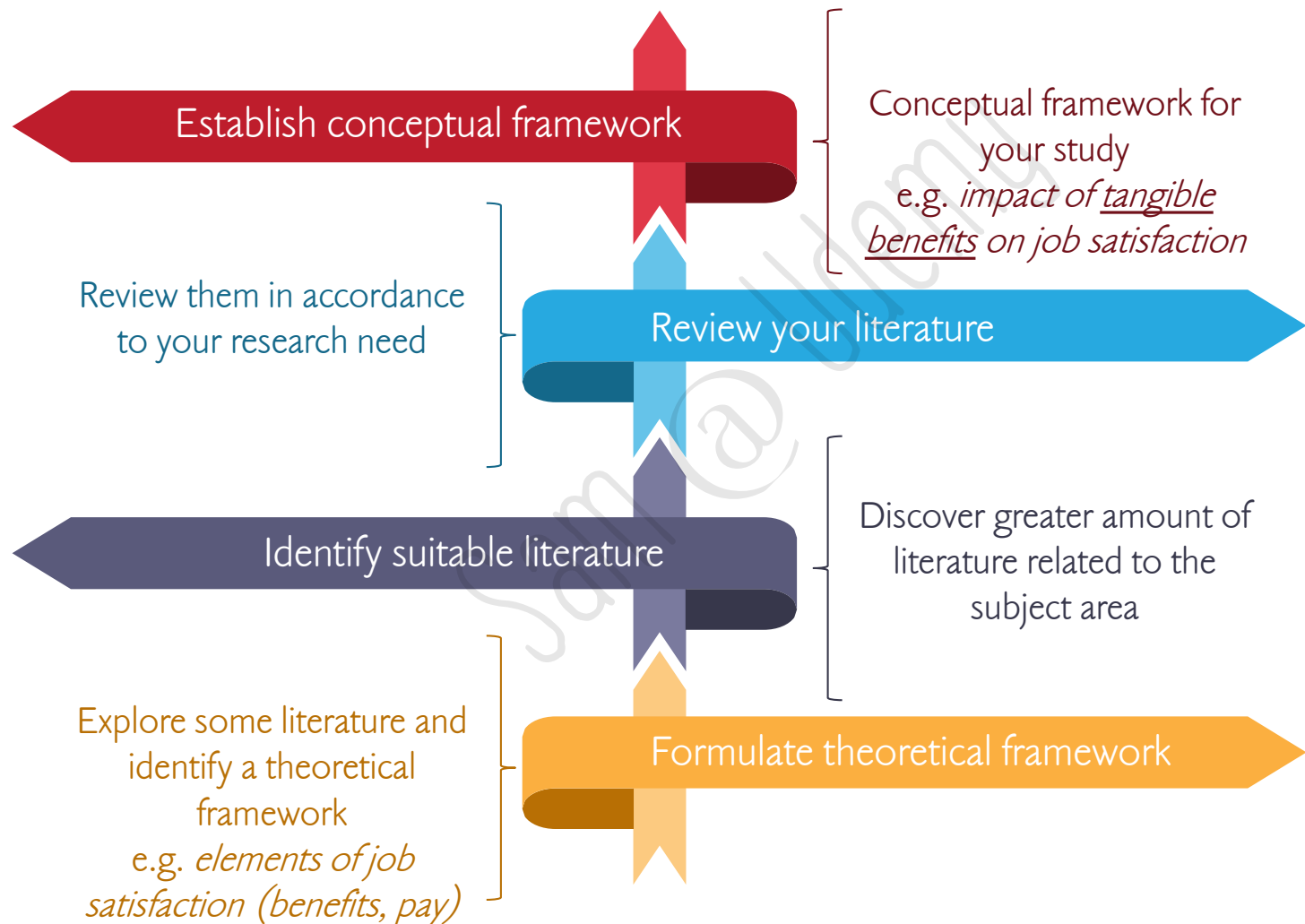
Prospect for future research

- Opportunities to investigate further

Benefits of Literature Review



Steps in Literature Review



Document Literature Review

- ▷ Brief introduction about your study
 - What is this study all about
 - *impact of tangible benefits on employee job satisfaction*
- ▷ Theoretical background of the study
 - Employee Job Satisfaction
 - Tangible Benefits
 - Pay
 - Bonus
 -so on
- ▷ Your findings
 - Impact of tangible benefits in certain circumstances
 - Contradictory (none has significant impact on job satisfaction!!)

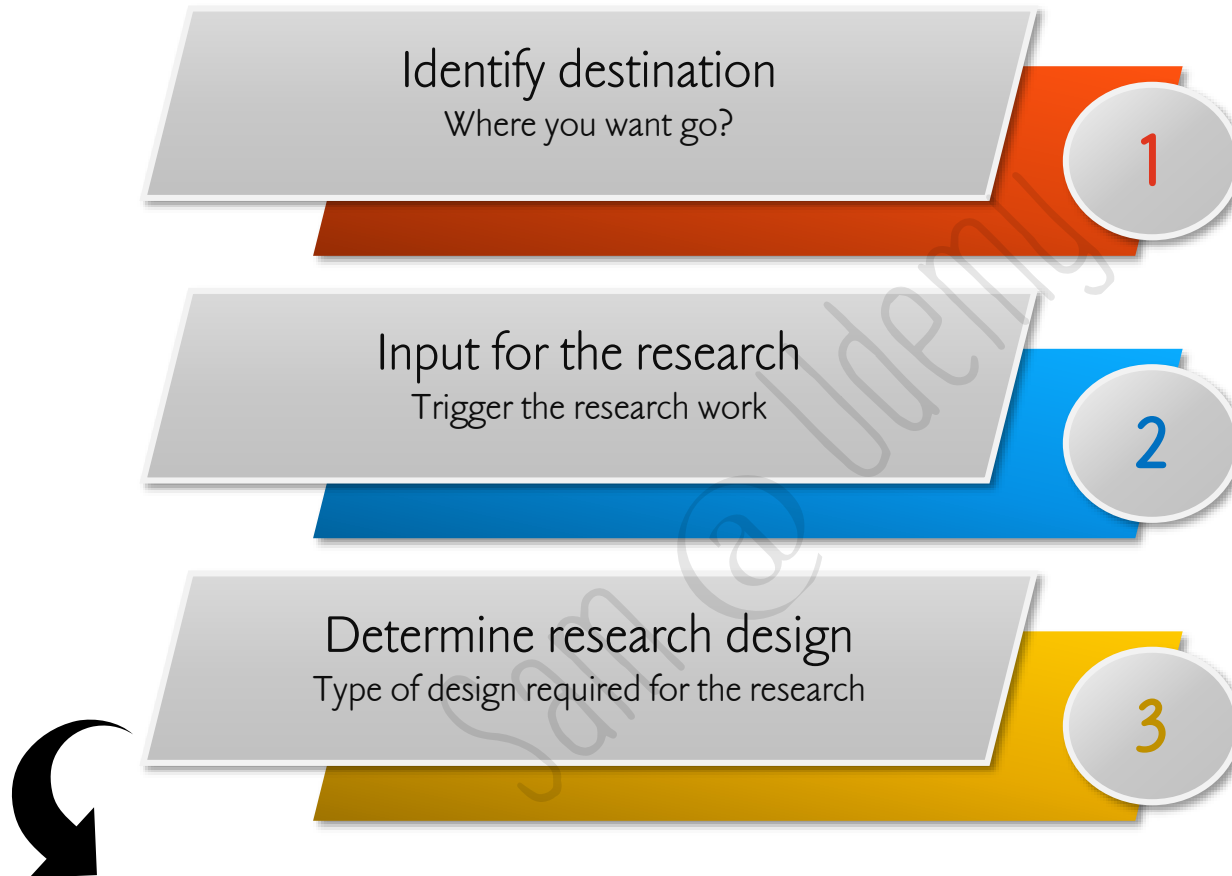
2.2

Research Problem

What is Research Problem

- ▷ Question that you want answered
 - *What are the type of intangible benefits?*
- ▷ Assumption you want to challenge
 - *Intangible benefits have no significant impact on job satisfaction*
- ▷ Statement you want to contradict.
 - *Tangible benefits have no direct relationship with job satisfaction*
- ▷ Not chasing the wrong idea!!
 - *Employee retention helps company earn more money!*

Importance of Research Problem

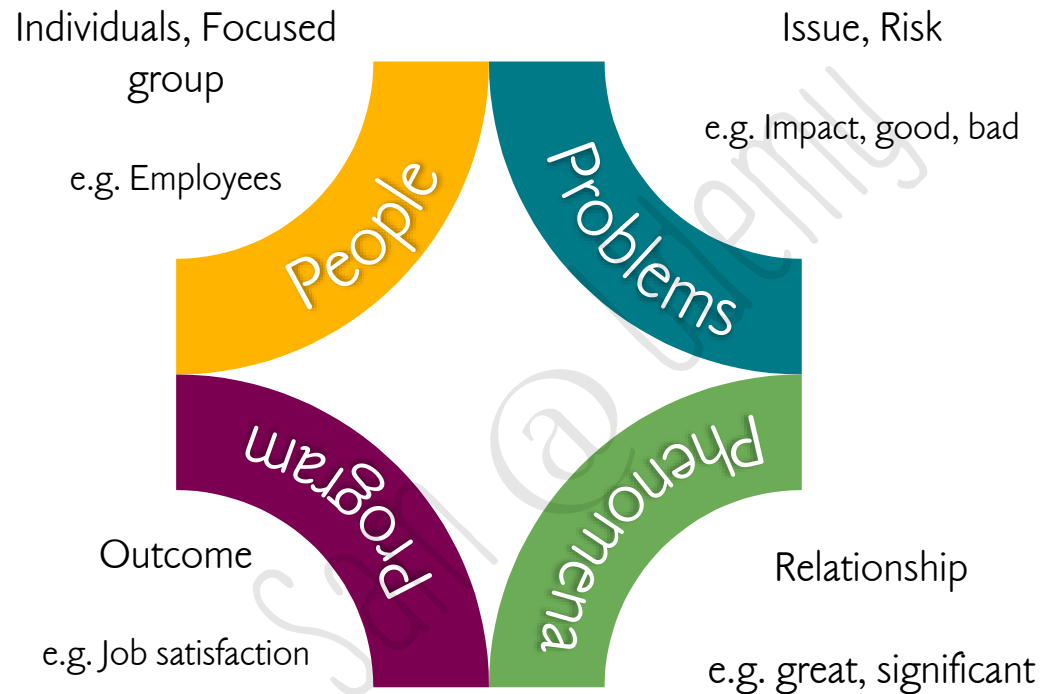


Types of Employee benefits impacting loyalty – Descriptive Qualitative

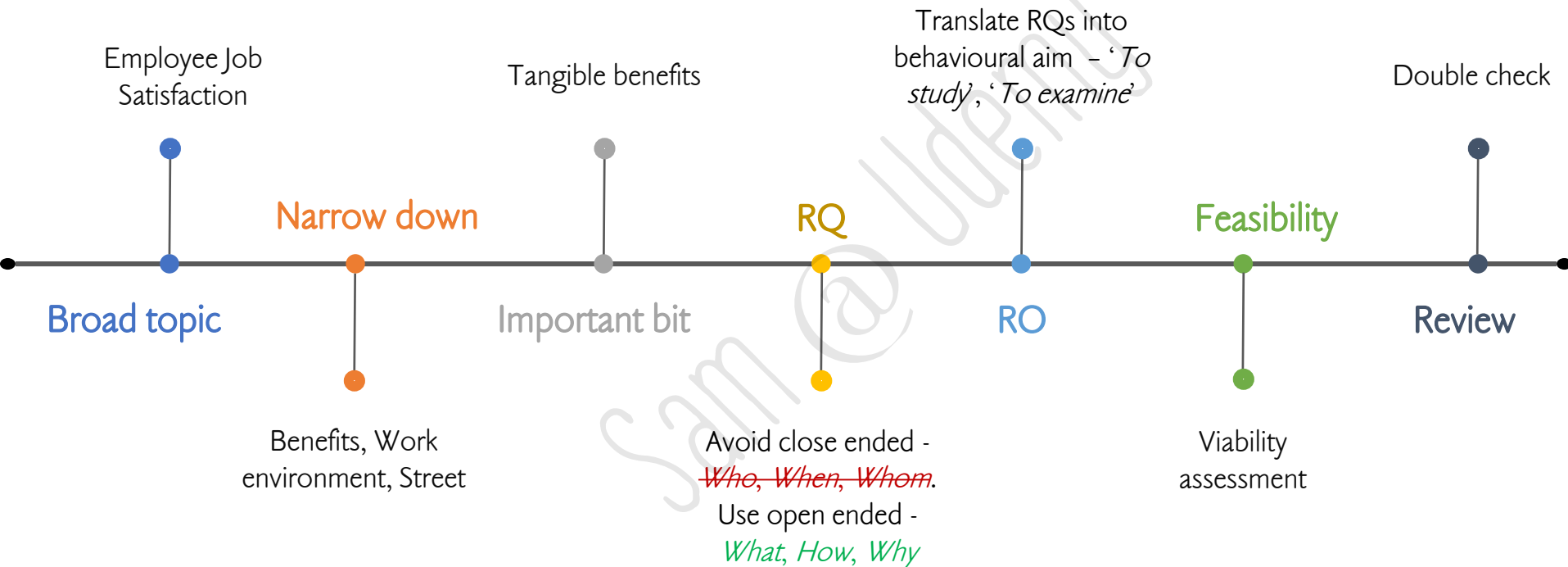
Extent of intangible benefit – Descriptive Quantitative

Impact of intangible benefits on employee retention – Correlational Quantitative

Sourcing Research Problem



Steps in Formulating Research Problem



The Good, The Bad and The Way Out!

- ▷ What is the employee turnover rate in Spain?
- ▷ What are the effects of employee benefits in France?
- ▷ How much an employee should get to remain loyal?
- ▷ How are UK Government doing in retaining public sector employees?
- ▷ How does the employee benefits impact employee loyalty in Spain?
- ▷ How does tangible benefits correlate with female public sector employee motivation in France?
- ▷ What is the relationship between employee pay and employee loyalty?
- ▷ What are the effects of benefits and perks on London based public service employees aged between 30-40?

Research Objectives

How does the employee benefits impact employee loyalty in Spain?

To examine the impact of employee benefits on employee loyalty in Spain.

How does tangible benefits correlate with public sector employee motivation in France?

To assess the relationship between tangible benefits and public sector employee motivation in France.

What is the relationship between employee pay and employee loyalty?

To establish relationship between employee pay and employee loyalty

What are the effects of benefits and perks on London based public service employees aged between 30-40?

To understand the effects of benefits on public service employees aged between 30-40 in London

Research Problem - Qual vs. Quan

Quantitative

- Specific, Narrow magnitude
- Primarily 'Deductive' reasoning – research problem before data collection
- Stick to the framework identified
- Lets' prove it right or wrong
- e.g. *How does the employee benefits impact employee loyalty in Spain?*

Qualitative

- Flexible, add/delete information
- Primarily 'Inductive' reasoning – research problem can be revised before/after data collection
- Work around framework identified
- Let's find out!
- E.g. *what are the type of benefits that can impact employee loyalty in Spain?*

2.3

Variables

What is a Variable

- ▷ A concept.....
 - Impression – effective, efficient
 - Perception – good quality, bad quality
 - Observation – rich/poor
- ▷ that can be measured
 - 70%
 - 0 failure
 - £100m



Types of Variable

by Relationship

Independent
Dependent
Extraneous
Intervening

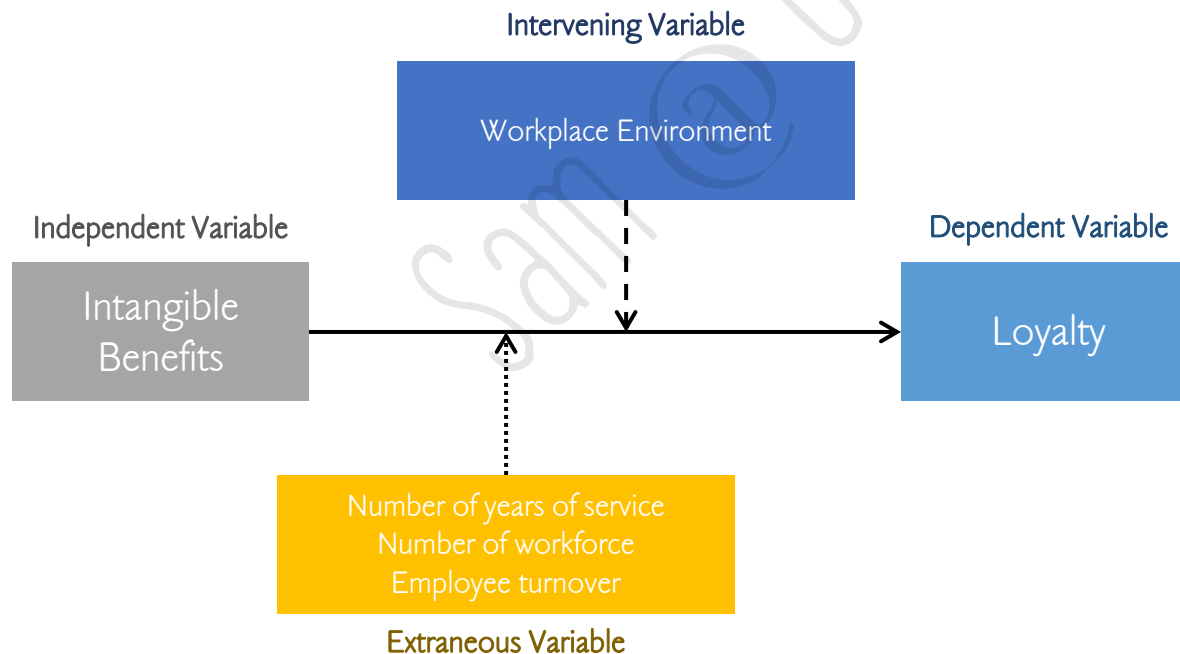
by Measurement

Constant
Dichotomous
Polytomous
Continuous

Types of Variable (by Relationship)

▷ Relationship

- Independent - the cause (mutually exclusive, cannot be any other variable)
- Dependent – assumed effect/outcome
- Extraneous – not measured, but can impact changes in dependant variable
- Intervening – The cause will have ‘expected’ effect if this variable is present

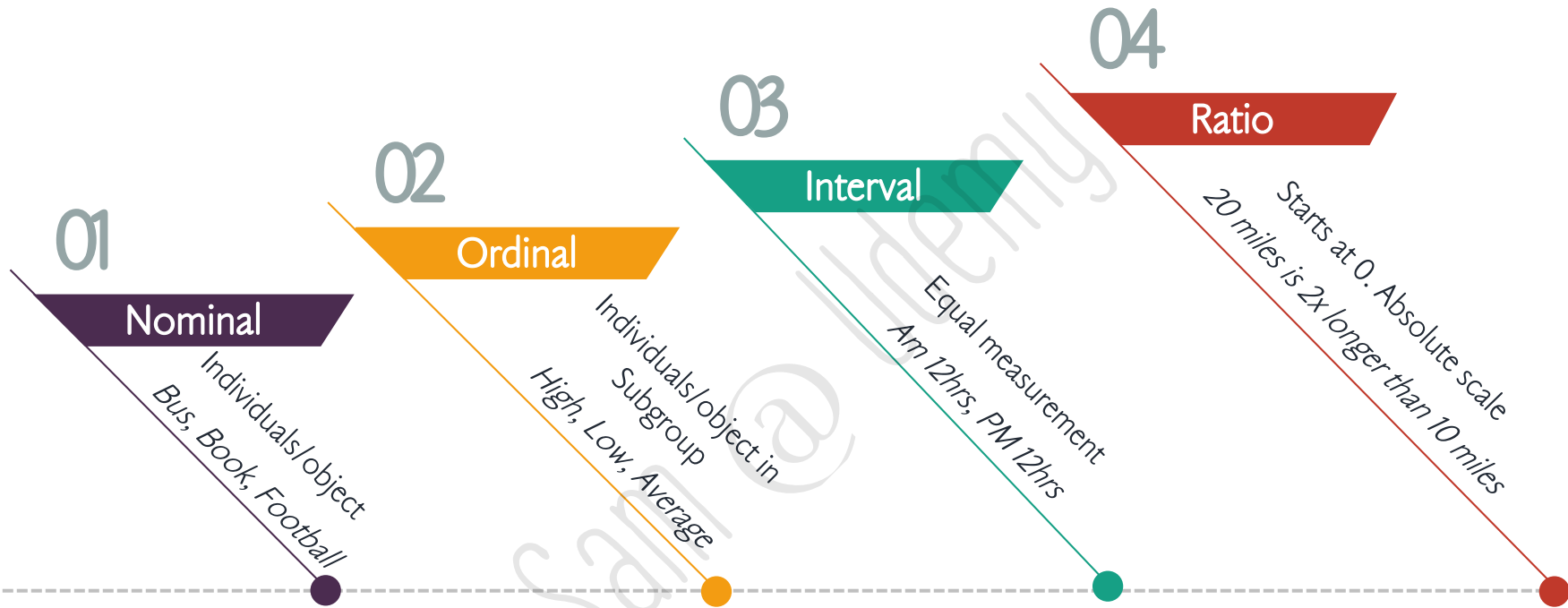


Types of Variable (by Measurement)

▷ Measurement

- Constant – one category (Bus, Book, Football)
- Dichotomous – two categories (male/female, yes/no, good/bad)
- Polytomous – multi categories (worst, bad, good, better, best)
- Continuous – continuity (Numbers: 1-10/11-20/21-30; Age: 0-19/20-39/40-59)

Measurement Scale



2.4

Hypotheses

What is a Hypothesis

▷ An assumption

- Tentative **proposition**
- Unknown **validity**
- Often establish **relationship** between two or more variables
- Number of years of service impacts pay rise of an employee
 - **True** – employee who stays longer, gets pay rise
 - **Partially true** – considered with other variables such as performance
 - **False** – Number of years is not taken into consideration when deciding benefits (it's the performance and qualification)



Constructing a Hypotheses?

- ▷ Simple, specific and conceptually clear
 - Number of years of service impacts pay rise of an employee get
 - ~~Employee who sleeps well gets pay rise ???~~
- ▷ Capable of verification
- ▷ Related to the existing body of knowledge
- ▷ Measurable and testable

Types of Hypotheses

▷ Research Hypothesis

- Intangible benefits significantly impact employee loyalty (H_1)
- Accept
- Reject

▷ Alternate Hypothesis

- Intangible benefits does NOT significantly impact employee loyalty (H_0)
- Reject
- Accept

2.5

Operational Definition

Operational Definition

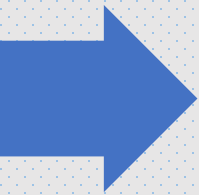
- ▷ Set definition for terms used for the research
- ▷ Exclusive to research – may have different interpretation outside
- ▷ Inform reader what a word/term means:
 - “Employee” – *individual in full time employment with the organisation and on active payroll*
 - i.e. individual must be from the organisation being researched on
 - “Intangible benefits” – *benefits that can not be measured*
 - ✓ ■ Training, Reward, Recognition, Development, Autonomy, Flexible working hours, Work-life balance
 - ✗ ■ Insurance, Tax relief, Car loan, Paid vacations

Review

What have we learned?

Chapter 3

Research Design



Learning Outcome

1. Research Design
2. Design in Qualitative Study
3. Design in Quantitative Study
4. Ideal Research Design

3.1

Research Design

What is Research Design

- ▷ “How” the study will be conducted
- ▷ Set of conditions for collecting and analysing data
 - Procedure and task required to complete the study (Step 1)

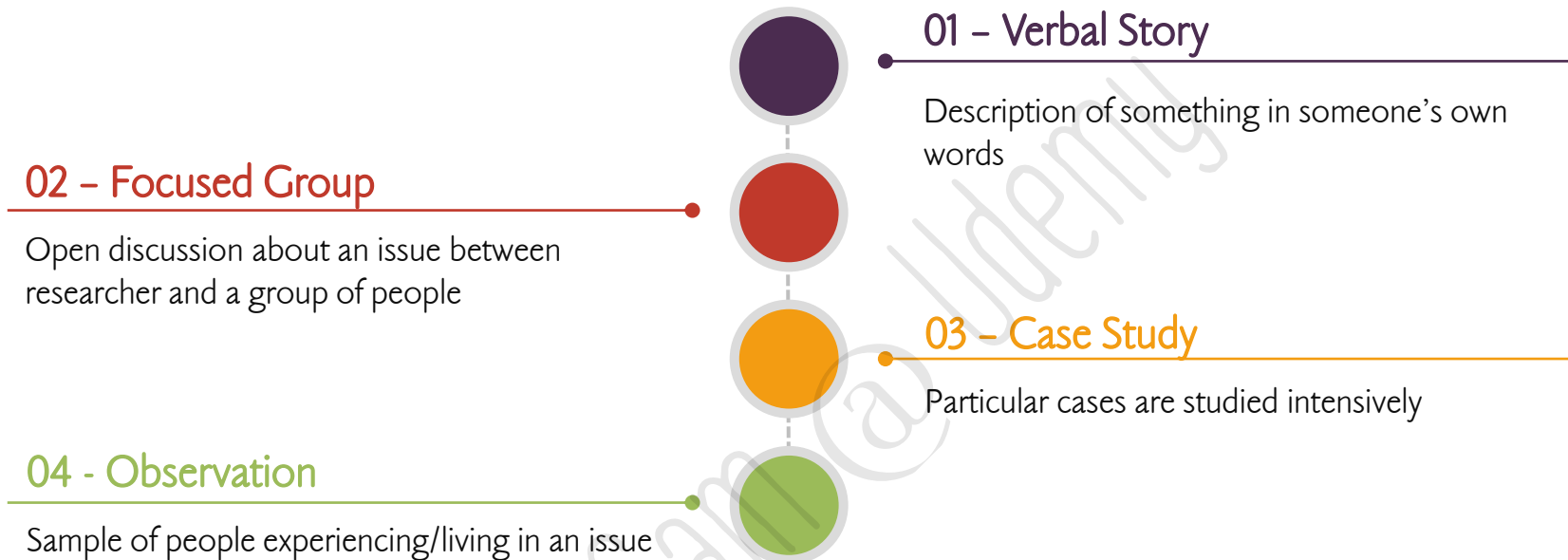


- Quality, and Validity of the procedures (Step 2)
 - Quantify or eliminate irrelevant variables so IV can have maximum impact on DV
 - e.g. *Impact of intangible benefits on job satisfaction*
 - Inangible benefits – Training, Rewards, Recognition, ~~Stress-buster~~

3.2

Design in Qualitative Study

Research Designs in Qualitative Study



3.3

Design in Quantitative Study

Research Design in Quantitative Study

(by) Number of contacts
with Study Population

1 – Cross Sectional

2 – Before and after

3 or more – Longitudinal

(by) Reference period of
study

Retrospective -> examine past
for present

Prospective -> examine
present for future

Retro-prospective -> examine
past and present in future

(by) Nature of
investigation

Experimental -> Initiate 'cause'
to examine 'effects'

Non experimental -> Examine
effects to trace 'cause'

(by) Number of Contacts with Population



01

Cross Sectional – 1 Contact with Population

Occurrence of a phenomenon, situation
e.g. *The extent of employee loyalty*

02

Before and After - 2 contacts with population

Measurement of change in a situation, or problem
e.g. *the effectiveness of automation on employee performance*

03

Longitudinal - 3 or more contacts with population

Pattern of change in relation to time
e.g. *the trend of job satisfaction in French public sector over 10 years*

(by) Reference Period of Study



01

Retrospective

Investigate a present phenomenon in the past
e.g. *The trend of job satisfaction in French public sector between 1980-2000*

02

Prospective

Investigate a present phenomenon in the future
e.g. *The effect of automation on employee performance*

03

Retro-Prospective

Investigate present phenomenon with past trend and in the future
e.g. *The evolution of intangible benefits and job satisfaction*

(by) Nature of Investigation



01

Experimental

Manipulate a variable (cause) to examine outcome (effect)
e.g. *The effectiveness of mammography on breast cancer*

02

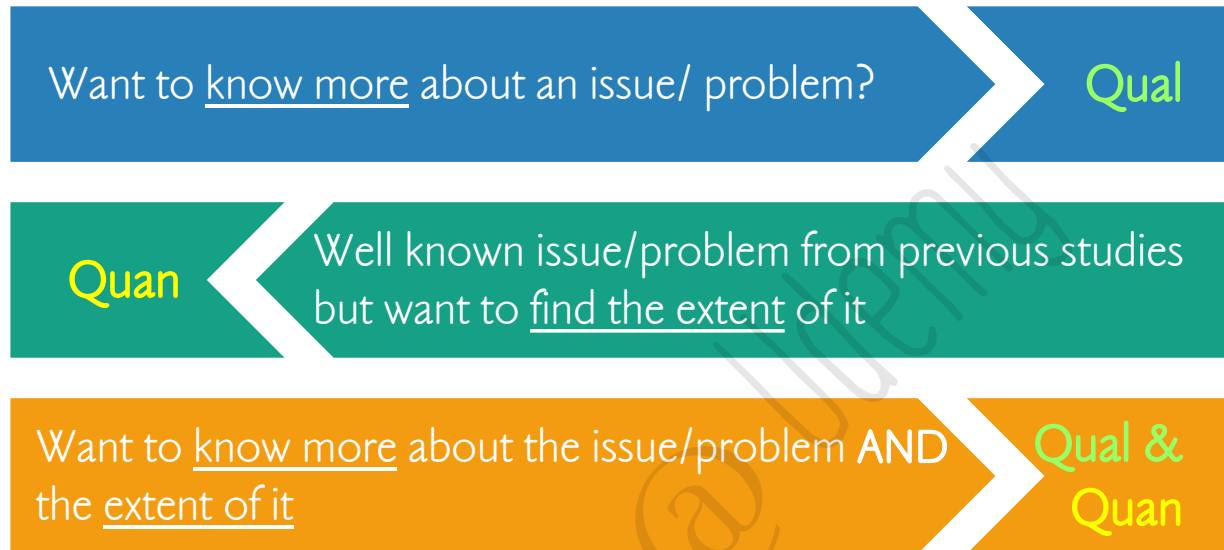
Non-experimental

Examine outcome (effect) and establish relationship with variable (cause)
e.g. *Male employee are likely to remain loyal than women employee*

3.4

Ideal Research Design

Ideal Research Design



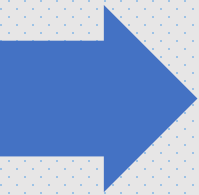
Ideal Solution
Qualitative – Quantitative – Qualitative

Review

What have we learned?

Chapter 4

Sampling



Learning Outcome

1. Basics of Sampling
2. Sampling Techniques

4.1

Basics of Sampling

What is Sampling?

- ▷ Selecting few (*sample*) from a large group (*sample population*).
- ▷ e.g. *Job satisfaction among public sector employees in Germany*
 - 16% of total population (approx. 13m) – Time/Cost consuming!!
 - Select a suitable sample from 13m population
 - by *Location* – Munich, Berlin, Frankfurt
 - by *Department* – Interior, Finance, Defence

Sampling Terminology

Job satisfaction among public sector
employees in Germany

Study Population – Total population (*13m*)

Sample/Sample Size – Selected sample (*n*)

Sampling Design – How sample is selected

Sampling Unit – Each *employee* is an Unit

Sample Statistics – Findings from sample

Sampling Consideration

Size of Sample

Larger the sample



Accurate the findings

Variations in Sample

Variation in Sample population characteristics



Greater uncertainty

4.2

Sampling in Quantitative Research

Sampling Types in Quantitative Research

- ▷ Random (aka Probability)
- ▷ Non-Random (aka Non-Probability)
- ▷ Mixed

Sam @ Udemu

Random/Probability Sampling (1/2)

Randomly selected sample – each has *equal* and *independent* chance of selection

Equal

Probability of each sample being selected is Equal

Total employees: 100;
Agreed: 80,
Refused: 20

(Not equal)

Independent

No sample is dependent on other sample

Total employees: 100;
Department 5; Each department: 20 pax.
Department 2 says all 30 needs to be included else none of them will participate.

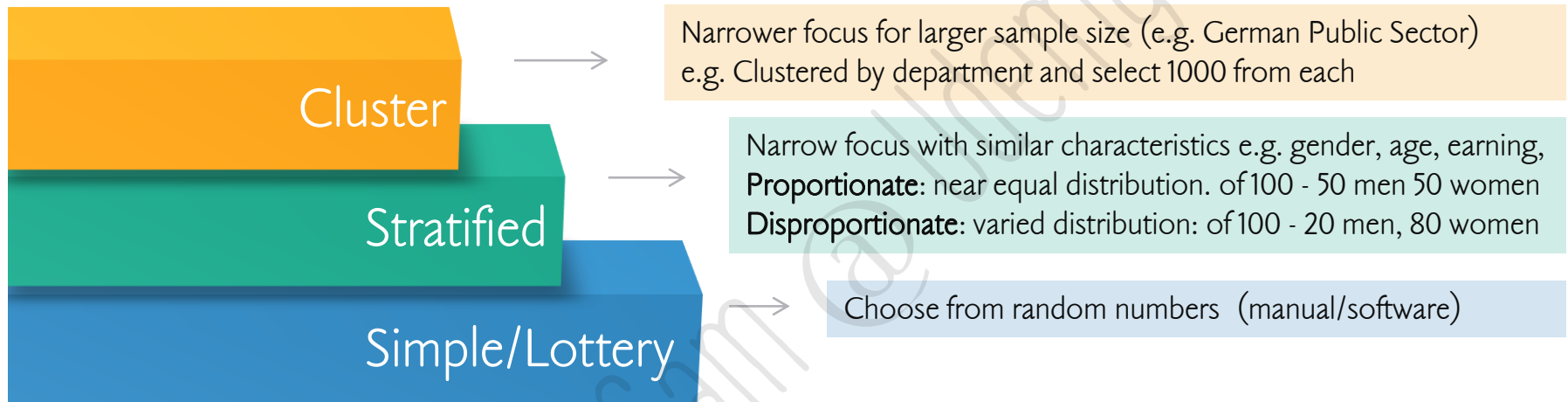
(Not Independent; Not acceptable)

Total employees: 100;
Department 20; Each department: 5 pax.
Department 15 says all 30 needs to be included else none of them will participate.

(Not Independent; Acceptable)

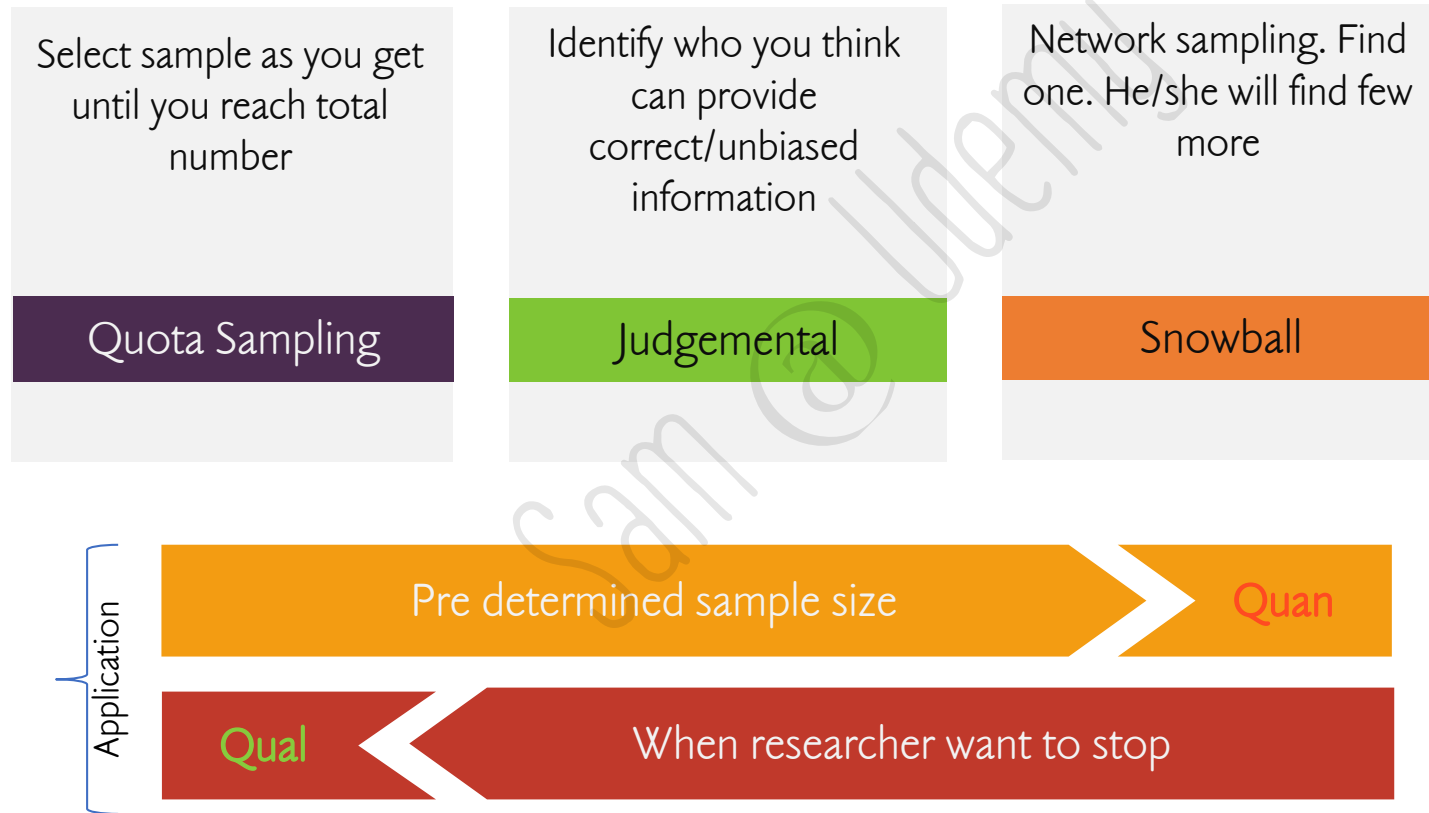
Random/Probability Sampling (2/2)

Sample selection technique



Non-Random/Non-Probability

Non-Random – Sample features are wide/unknown



Mixed Sampling

▷ Random and Non-Random

- Identify total population (30)
- Decide sample size (6)
- Calculate interval distribution ($30/6 \rightarrow 5$)
- Spread the sample in intervals (5 in each interval)
- Take 1st sample who best suits (3rd from 5 in first interval)
- Take 2nd sample (must also be from 3rd position in next interval)



Sample Size Calculation (1/2)

- ▷ Step 1 – Know your population size (precise or approx.)
 - Total number of employee: 1000 (approx.)
- ▷ Step 2 – Determine Margin of Error
 - acceptable amount of error (generally 5%)
 - 60% of population would go for bus over car with 5% margin of error
 - i.e. given entire population surveyed, you are confident between 55%-65% would go for bus
- ▷ Step 3 – Set Confidence Level
 - Claim your confidence that you will meet your margin of error (typically 90%, 95% or 99%)
 - i.e. given entire population surveyed, you are 99% confident between 55%-65% would go for bus
- ▷ Step 4 – Determine Standard Deviation
 - Degree of variation; hard to determine
 - Value set at worst case - 0.5 (50%) to trigger larger sample

Sample Size Calculation (2/2)

▷ Step 5– Find Zscore

- Fixed value based on confidence level
- 99% confidence level → Z of **2.58** (95% → 1.96, 90% → 1.65, 85% → 1.44)

▷ Step 6 – Use the formula

- for known population

$$\frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

$$\frac{\frac{2.58^2 \times 0.5(1-0.5)}{0.05^2}}{1 + \left(\frac{2.58^2 \times 0.5(1-0.5)}{0.05^2 \times 1000} \right)}$$

400 sample

- for unknown population (Step 1 invalid)

$$\frac{z_x^2 P(1-p)}{e^2}$$

$$\frac{(2.58)^2 \times 0.5(1-0.5)}{(2.58)^2}$$

665 sample

(N) population size
(z) z-score
(e) margin of error
(p) standard deviation

Sampling Criteria (Quan vs. Qual)

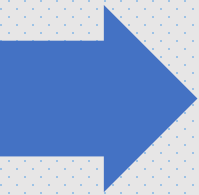
- ▷ Quantitative
 - Unbiased
 - Represent specific group of population being researched on
- ▷ Qualitative
 - Researcher powered
 - Easily available
 - Extend of knowledge
 - Sample related to specific phenomenon/issue

Review

What have we learned?

Chapter 5

Data Collection Methods



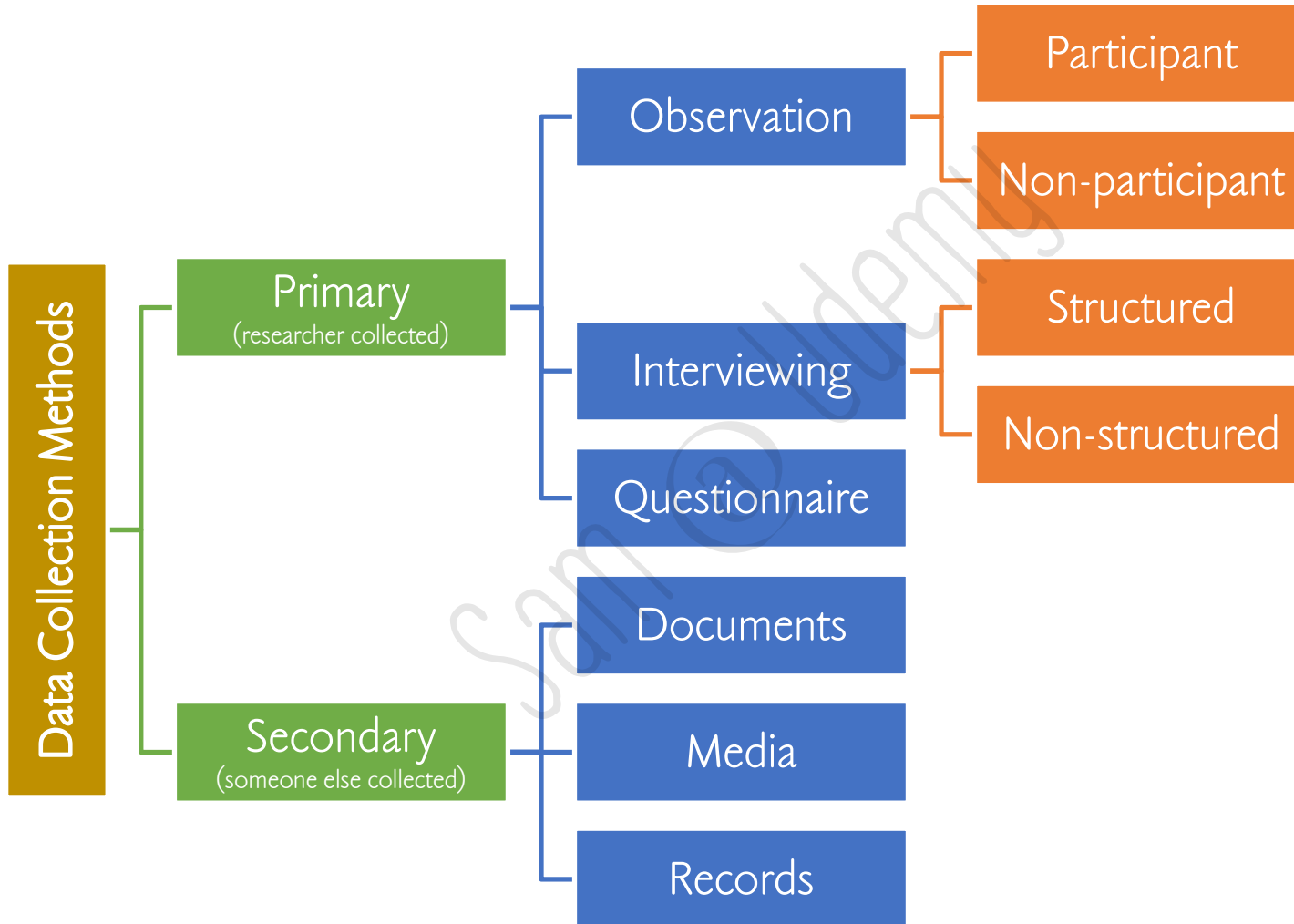
Learning Outcome

1. Data Collection Methods
2. Measurement Methods

5.1

Data Collection Methods

Types of Data Collection

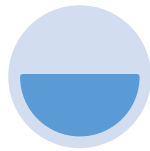


Primary - Observation

- ▷ Purposeful, systematic and selective way of watching and listening to an interaction as it takes place
 - **Participant** - Researcher participate in a group, with or without their knowing that they are being observed
 - **Non-participant** - Researcher do not get involved but watch/listen passively to its activities and drawing conclusions
- ▷ How to record Observations
 - Descriptive
 - Using scales
 - Video recording

Primary - Interview

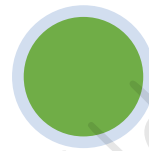
- ▷ Asking questions to respondents and record their responses



Structured

inflexible

keep strictly to the questions decided beforehand



Non Structured

very flexible

freedom to think about and formulate questions as they come to your mind

Primary - Questionnaire

- ▷ Respondents are given the questions; they write down answers.
- ▷ Ways to administer

Mailed

- Send to prospective respondents by mail

Collective

- Distribute in a confined space e.g. classroom, office

Public Place

- Large population in public place e.g. shopping mall, airport

Primary (Q'naire/Interview – Types of Q's)

▷ Open ended

- Responses are not given
 - Please mention your age?
28 years

▷ Close ended

- Responses are given
 - Please indicate your age range from below
 - 18-25 years
 - ✓ 26-34
 - 35-50
 - 50 or more

Primary (Q'naire/Interview – Design Q's)

1

Simple and understandable language

- e.g. *Do you feel extreme antipathy for dispute?*

2

Avoid ambiguity

- e.g. *Considering a disability, does that make you unable to move?*

3

No double barrelled question

- e.g. *How frequently and how much do you spend on travelling by bus?*

4

Avoid question based on presumptions

- e.g. *What type of fuel do you use for your car?*

5

Maintain order of questions

- Avoid random order, maintain logical sequence

Secondary

Previous Research

- Similar studies done previously

Media

- Media publications, government records, journalism

Historical records

- Library of records, journals, diaries, blogs

Disadvantage

- **Reliability** – vary from source to source
- **Availability** – may no be available when needed
- **Format** – Incorrect format (your research is below 30 years old, the data available is above 30 years old)

Test Research Instrument

- ▷ If the respondent understand your questions
- ▷ If the message is getting across
- ▷ Potential flaws
- ▷ Opportunity for re-examine and review

Methods in Qual and Quan

Primary		Qualitative	Quantitative
Observation	Participant	Narrative/descriptive	Categorise/measurement scale
	Non-participant	Narrative/descriptive	Categorise/measurement scale
Interviewing	Structured	Narrative/descriptive	Measurement scale
	Non-structured	Narrative/descriptive	Categorise/measurement scale
Questionnaire	Open ended/ Close ended	Narrative/descriptive	Categorise/measurement scale
Secondary	Previous research, media, history	Narrative/descriptive	Categorise/measurement scale

5.2

Measurement Methods

Attitudinal Scale

- ▷ Measure intensity towards an “Attitude”
 - Three types of scale
 1. **Likert** scale
 - *Ordinal* scale
 - Most widely used
 2. **Guttman** scale
 - *Ratio* scale
 - Complex; rarely used
 3. **Thurstone** scale
 - *Interval* scale
 - Based on Likert

Likert Scale

- ▷ Each statement/item on the scale has equal attitudinal value - 'importance' or 'weight'
 - Importance – High-Low, Positive-Negative, Agree-Disagree
 - Weight – Rank between numbers (1 to 3, 1 to 5)

Likert Scale Construction (1/2)

- ▷ Prepare statements reflecting the logical link with the main issue
 - Job satisfaction is linked with pay, benefits, leadership, training etc
- ▷ Decide attitude direction in the scale
 - **One** – Positive
 - e.g. *The work environment makes me productive*
 - **Two** – Positive and Negative
 - e.g. *The work environment makes me productive*
 - e.g. *The leadership is not motivating*
- ▷ Prepare scale to measure intensity
 - Strongly agree, Agree, Neutral, Disagree, Strongly Disagree
5 4 3 2 1

Likert Scale Construction (2/2)

- ▷ Calculate attitudinal score
 - Sample 1 is more “satisfied” than Sample 2

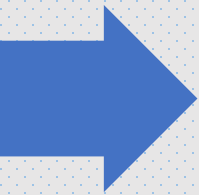
Statements	SA 5	A 4	N 3	D 2	SD 1	Sample 1	Sample 2
1. Work environment pleases me						4	2
2. Leadership style is <u>not</u> pleasing						4	2
3. Benefits are <u>not</u> pleasing						3	3
4. Training is encouraging						2	1
Total						13	8

Review

What have we learned?

Chapter 6

Research Proposal



Learning Outcome

1. Writing a Research Proposal

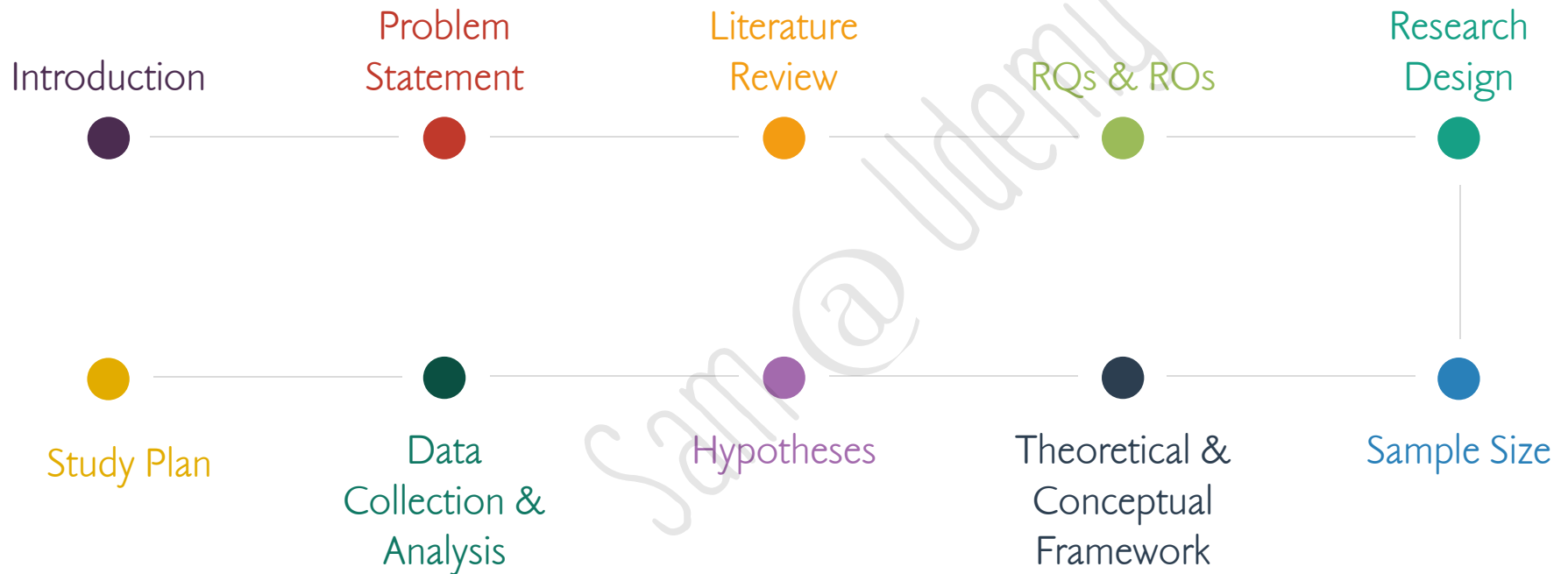
What is a Research Proposal?

- ▷ A written document
 - *What* you want to do?
 - *How* you want to do?
 - *Why* you want to do?

Research Title

Determinants of Cabin Crew Retention in London Airlines

Contents of Research Proposal



Introduction

- ▷ An overview of the main topic
- ▷ A historical perspective
- ▷ The main issues, problems;

.....Retention management may have the concept of both limited and extensive importance in any organization. This thesis paper will generally cover the significance of retention management that includes: leadership, motivation, job satisfaction and staff retention, together with the distinctiveness of communication and understanding retention plan.....

Problem Statement



Issues that are the basis of your study

Various perspectives on these issues

Main gaps in the existing body of knowledge

Plot main research questions that you want to answer through your study

Literature Review

- ▷ Summary discussion about what you have already reviewed
- ▷ Variables – Independent and Dependent; Intervening (if any)
- ▷ Concepts you will elaborate later

Objectives & Research Questions

▷ Objectives

- Main objectives
- Sub Objectives
- Start with action oriented verbs
(*To investigate, To examine....*
etc)

▷ Research Questions

- Translate objectives into question format
- Start with – *What, How, Why*

Research Questions

- a) To what extent leadership has of importance on employees' retention in London Airlines?
- b) To what extent motivation has of importance on employees' retention in London Airlines?
- c) To what extent job satisfaction as mediating variable, significantly correlated to staff retention in London Airlines?

Research Objectives

- a) To examine the influence of leadership on cabin crew's retention in London Airlines.
- b) To determine the importance of motivation on cabin crew's retention in London Airlines.
- c) To determine the degree of relationship between job satisfaction and cabin crew's retention in London Airlines.

Research Design

Qualitative



- ☐ Verbal History
- ☐ Focused Group
- ☐ Case Study
- ☐ Observation

Quantitative



- ☐ Cross-sectional
- ☐ Before-and-after
- ☐ Longitudinal
- ☐ Retrospective
- ☐ Prospective
- ☐ Experimental
- ☐ Non-experimental

Sample Size

- ▷ Style

- Random, Non-Random, Mixed

- ▷ Size

- Known population, Unknown population

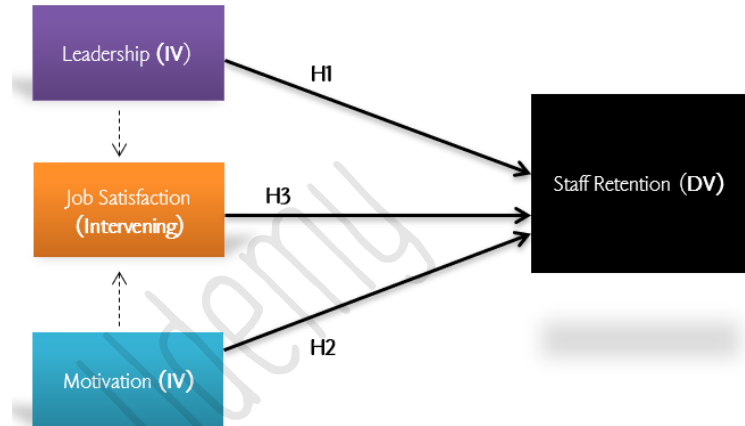
Framework (optional)

▷ Theoretical

- From Literature review

▷ Conceptual

- Consists of variables you are interested
 - Independent, Dependent, Intervening etc



Hypotheses

▷ Statement that needs to be....

- Accepted
- Partially accepted
- Rejected

Data Collection & Processing Techniques

- ▷ Data Collection
 - Primary
 - Observation
 - Interviewing
 - Questionnaire
 - Secondary
 - Case study
 - Previous Research
- ▷ Data Processing/Analysis
 - Computer software
 - Manual analysis

Study Plan

▷ Structure

- Chapter 1 – Introduction
- Chapter 2 – Literature Review
- Chapter 3 – Research Methodology
- Chapter 4 – Data Analysis
- Chapter 5 – Conclusion

▷ Plan

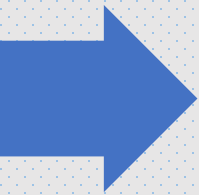
- According to chapters
 - Chapter 1..... 4 weeks
 - ...and so on
- Contingency plan

Review

What have we learned?

Chapter 7

Data Collection & Analysis



Learning Outcome

1. Ethics in Data Collection
2. Data Analysis

7.1

Ethics in Data Collection

Ethics by Definition

- ▷ Do something by following
 - Rules
 - (that are) Appropriate

Sam @ Udemy

Ethics in Data Collection (1/2)

Participants



CONSENT

Do not collect information without the knowledge of participants, and informed consent



SENSITIVITY

Inform beforehand about questions will be asked



INCENTIVE

Do not give incentive before data collection or offer bribe



CONFIDENTIALITY

Maintain data privacy and do not to share with anyone

Ethics in Data Collection (2/2)

Researcher



AVOID BIAS

Do not manipulate/influence data



INCORRECT REPORTING

Do not withhold/hide/conceal information



DATA MISUSE

Protect data securely

7.2

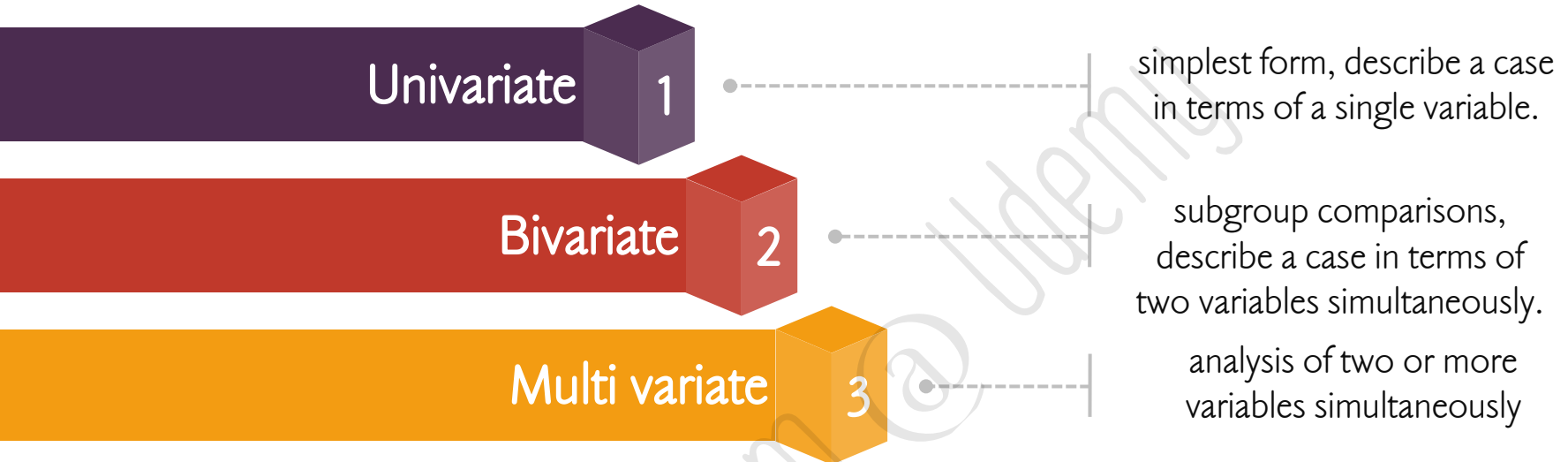
Data Analysis

Steps in Data Analysis

- ▷ Cleanse data (aka Editing)
 - Remove incomplete; organise data
- ▷ Convert data
 - Quantitative Data
 - Counts, frequencies, tallies
 - Qualitative Data
 - Coding – assign numeric value (*Male 1, Female 2*)
- ▷ Input data
 - Excel, SPSS, SAS
- ▷ Analyse data
- ▷ Prepare visual representation (tables/graphs)
 - Comparisons, Proportions, Ranking, Trend, Variations
- ▷ Report the findings

Quantitative Analysis Techniques

- ▷ Choose a level of analysis



- ▷ Type of statistical analysis
 - Nominal/Categorical – *one choice*
 - Ordinal – in order (*high, low, average*)
 - Continuous *0-10, 11-20, 21-30* etc.

Quan. Level of Analysis (Univariate)

- ▷ Simplest form - describe a case in terms of a single variable.
 - Gender – *number of male, number of female, number of LGBT*
- ▷ Frequency distribution

How many times do you travel by bus in a week?				
	10/more	5-9	1-4	0
Women (N -> 30)	14	9	5	2
(%)	46%	30%	17%	7%

- ▷ Mean, Median, Mode – *average, middle value, most often*

Quan. Level of Analysis (Bi-variate) 1/2

- ▷ Analyse two variables simultaneously
- ▷ Step 1: Define the nature of the relationship.
 - *Higher 'pay' lead to higher job 'satisfaction'.*
 - Independent variable – Pay
 - Dependant variable – Satisfaction
- ▷ Step 2: Identify the type and direction of the relationship
 - *Pay* – Ordinal (1K-2K, 2K-5K, 5K-10K)
 - *Satisfaction* – Ordinal (Satisfied-1, Neutral-2, Unsatisfied-3)
 - Direction - Positive (High Pay – Satisfaction)
- ▷ Step 3: Statistical Significance
 - Establish relationship - random occurrence? by chance? closely related?
 - Desired value 0.05 i.e. only 5% chance the relationship is accidental

Quan. Level of Analysis (Bi-variate) 2/2

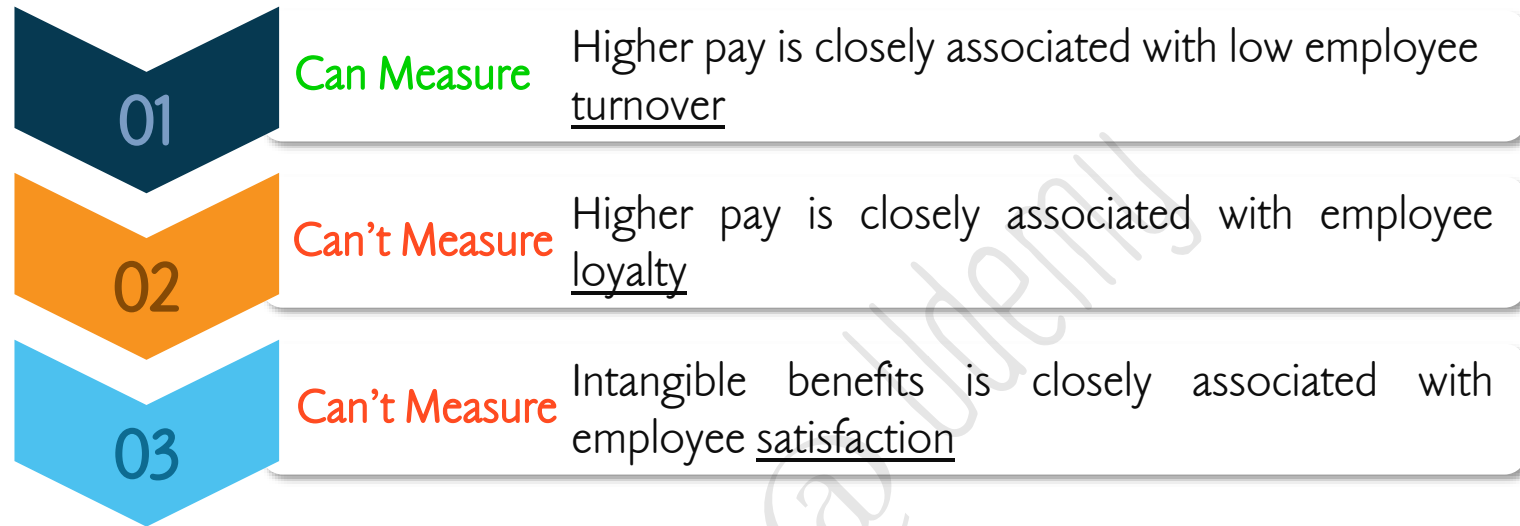
▷ Step 4: Strength of Relationship

- Correlation - Pearson's correlation test,
- Regression
- Analysis of Variance - Kendall's Tau, Chi-square(χ^2), T-test, ANOVA, Cross tabulation.
- Tool - Excel, SPSS etc

Quan. Level of Analysis (Multi-variate)

- ▷ Establish relationships between multiple IVs with multiple DVs
- ▷ Various known techniques
 - Multiple regression, MANOVA (mean)
 - Factor analysis, Cluster Analysis (correlation)

Measurement of Latent Variable



- ▷ Various measurement techniques –
- Factor analysis
 - Latent class analysis (LCA)
 - Structural equation modelling (SEM)
 - Rasch analysis

Cronbach's Alpha (Reliability)

- ▷ How reliable is your survey data?
 - If asked twice to the same person
 - Multiple questions are constructed under one IV
- ▷ Measurement of Latent variable
 - If multiple questions collectively measure the overall concept (e.g. job satisfaction)

Qualitative Analysis Techniques

2 - Narrative analysis

Analyse content from various sources, such as interviews of respondents, observations from the field, or surveys



1 – Content Analysis

Analyse documented information in the form of texts, media.

3 – Grounded Theory

Explain why a certain phenomenon happened

Importance of Statistics in Data Analysis

- ▷ Important when required data is collected
- ▷ Answer research questions
 - Analysing variables
 - Establishing relationships
- ▷ Manage variables with known problems/issues.

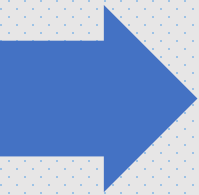
Review

What have we learned?

Chapter 8



Research Report



Learning Outcome

1. Standard Outline of Report

Input for Research Report



1. Communication skills

2. Clarity and logical sequence

3. Knowledge on the topic

4. Interpretation of data

5. Control and rigor

6. Accurate and bias free

Structure of Report

- ▷ Title Page
- ▷ Abstract
- ▷ Acknowledgement
- ▷ Table of Contents
- ▷ List of figures/tables/diagram
- ▷ Chapter 1 – Introduction
- ▷ Chapter 2 – Literature Review (and frameworks)
- ▷ Chapter 3 – Research Methods
- ▷ Chapter 4 – Data Analysis
- ▷ Chapter 5 – Conclusion
- ▷ Reference
- ▷ Bibliography
- ▷ Appendices

Research Title

Determinants of Cabin Crew Retention in London Airlines

Chapter 1 - Introduction

- 1.1 Background of the Study
- 1.2 Problem Statement
- 1.3 Research Questions
- 1.4 Research Objectives
- 1.5 Significance of the Study
- 1.6 Organization of the Study

Chapter 2 – Literature Review

- 2.1 Introduction
- 2.2 The Company: London Airlines
- 2.3 Leadership
 - 2.3.1 Leadership and Empowerment
 - 2.3.2 Communication Theories
- 2.4 Motivation
 - 2.4.1 McGregor's Theory X and Theory Y
- 2.5 Job Satisfaction
- 2.6 Retention Management
 - 2.6.1 Global Employee Retention Management
 - 2.6.2 Retention Plan
 - 2.6.3 Knowledge Retention
 - 2.6.4 Reasons for Employee Leaving
- 2.7 Conceptual Model
- 2.8 Hypothesis Development
- 2.9 Summary

Chapter 3 – Research Methods

- 3.1 Introduction
- 3.2 Justification of Paradigm
- 3.3 Research Methods
- 3.4 Development of the Questionnaires
- 3.5 Sample Selection
- 3.6 Data Collection
- 3.7 Data Analysis Techniques
- 3.8 Pilot Study
- 3.9 Ethical Considerations
- 3.10 Assumptions
- 3.11 Summary

Chapter 4 – Data Analysis

- 4.1 Introduction
- 4.2 Data Analysis
 - 4.2.1 Demographic Analysis
 - 4.2.2 Correlation Test
 - 4.2.3 Coefficient Test
 - 4.2.4 Reliability Test
- 4.3 Summary

Chapter 5 - Conclusion

- 5.1 Introduction
- 5.2 Summary of the Study
- 5.3 Limitations of the Study
- 5.4 Recommendations
- 5.5 Conclusion

Review

What have we learned?



How to Paraphrase: Avoid Plagiarism

Why Paraphrase

- ▷ Effective paraphrasing is vital in academic writing to avoid the risk of **Plagiarism**

What is Plagiarism

- ▷ Quoting directly without acknowledgement/credit
- ▷ It constitutes academic dishonesty
- ▷ It signals a lack of integrity and can ruin your academic career

Paraphrase vs Translation vs Summary

- ▷ *Paraphrasing* represents the preservation of meaning using different words in the same language
- ▷ *Translation* represents the preservation of meaning in the words of a different language
- ▷ A *summary* is a preservation of the main points of a text presented in your own words. Unlike a paraphrase, a summary is much shorter.

Rule of Thumb

- ▷ Less than **10 percent** of an academic paper or article should consist of direct quotations from research sources.
- ▷ In physical sciences (e.g. Physics, Chemistry, Astronomy) direct quotations are not allowed.

Watch out for these 8 Pitfalls

- ▷ Forgetting to acknowledge source or author
- ▷ Misreading the original
- ▷ Including too much of the original
- ▷ Leaving out important information
- ▷ Adding your opinion
- ▷ Summarizing rather than paraphrasing
- ▷ Substituting inappropriate synonyms
- ▷ Expanding or narrowing the meaning

Verbs

- ▷ To introduce quotations and paraphrases (generally in past tense)

Verbs	Introducing words	Example (incl reference)
Verbs and other expressions neutral in meaning	According to, Described, Defined, Noted, Discussed	According to (Sam, 2019), The earth is round
Verbs that indicate author's position on an issue	Argued, Claimed, Recommended, Suggested, Rejected, Supported	Sam (2019) claimed that the earth is round
Verbs that indicate what the author's thinking	Assumed, Considered, Believed, Thought	Sam (2019) believed that the earth is round
Verbs that indicate what the author's showing something	Demonstrated, Presented, Explained, Showed, Indicated	Sam (2019) explained conclusively that the earth is round
Verbs that indicate what the author's proving something	Confirmed, Validated, Established, Verified	Sam (2019) established theory to prove that the earth is round
Verbs that indicate what the author did	Analysed, Examined, Investigated, Studied, Found, Observed	Sam (2019) investigated the theory of the Earth is round

Paraphrasing Techniques

- ▷ Acknowledge sources
- ▷ Changing vocabulary
 - synonyms & keywords
- ▷ Varied sentence patterns
 - passive voice
- ▷ Change order of ideas
- ▷ Change word class
 - Nouns to verbs
 - Verbs to nouns
 - Adjectives to adverbs
 - Adverbs to adjectives
- ▷ Break long sentences into short ones
- ▷ Making abstract ideas more concrete
- ▷ Don't forget to document Author's Position and Thanking

Paraphrasing Techniques in Details (1/6)

A) Use Different Vocabulary with the Same Meaning

Most students try to use this method, but actually it can be difficult to use. The reason is that although English has many synonyms such as 'large' or 'big', it is unusual for these words to have exactly the same meaning.

So, if you try to use a lot of synonyms when you paraphrase, you might produce sentences that are not "natural English". Unnatural sentences are likely to create confusions because the reader may not understand what you are trying to say.

For example, look at this original sentence and two paraphrased equivalents:

1. "It can be difficult to choose a suitable place to study English."



2. "It is often a challenge to pick up a relevant school to learn English."

3. "It is sometimes hard to select an appropriate place to learn English."

Paraphrasing Techniques in Details (2/6)

For non-native speakers, these three sentences might look like they have the same meaning. For native speakers, however, **Sentence 2** is unnatural.

The first problem is "pick up". This expression does NOT have the same meaning as "choose", so this part of the paraphrased sentence is actually wrong.

The second problem is the word "relevant". In some cases, "relevant" and "suitable" are good synonyms but in this example they are not close in meaning at all.

Sentence 3 is a much better paraphrase of sentence 1 because all of the words have the same meaning.

The best advice is to follow the "100% rule" for using synonyms: only use a synonym for a word if you are 100% certain that the new word has 100% the same meaning as the original word.

Paraphrasing Techniques in Details (3/6)

B) Change the Order of Words

Changing the word order of a phrase or sentence is usually safer than using synonyms because the words are the same, so the meaning must be the same. However, it is not always easy to decide which words to move or to decide to which position the words should be moved. Also, when you move a word you might need to change some other words, add some other words or cut some other words to ensure that the new sentence is grammatically correct. Here are two suggestions for how to change the word order without making errors:

i) If the original sentence has two or more clauses, change the order of the clauses.

1. "If they have some help, most people can paraphrase effectively. However, practice is important because paraphrasing is difficult."



2. "Most people can paraphrase effectively, if they have some help. Paraphrasing is difficult, however, so practice is important."

Paraphrasing Techniques in Details (4/6)

ii) If the original sentence has an adjective and noun, change the adjective into a relative clause.

1. "Writing essays can be a **challenging** task."



2. "Writing essays can be a task **which is challenging**."

Paraphrasing Techniques in Details (5/6)

C) Use Different Grammar

It sounds very difficult to use different grammar, but actually it is easier than changing vocabulary. In addition, if you change the grammar and make an error, usually the reader will understand what you mean. So, although changing the grammar has some advantages, it is still not easy and you should practice it as often as possible. Here are two suggestions for how to change the grammar without making errors:

i) Change some of the words in the original sentence into different parts of speech (you will often need to change the word order and some other words, too).

1. "The most effective way **to build** your English skill is to **study regularly**."



2. "The most effective way **of building** your English skill is to **do studying on a regular basis**."

Paraphrasing Techniques in Details (6/6)

ii) If the original sentence is in the active voice, change it to passive or vice versa.

1. "To improve English, you **should learn** new vocabulary on a daily basis."





2. "To improve English, new vocabulary **should be learned** on a daily basis"

Paraphrasing Example 1



Types	Descriptions
Original Information	An old medical maxim sums up the goals of medicine concisely, "Cure sometimes, support frequently, comfort always." This maxim reflects the fact that disease presents in different ways, and that the appropriate medical intervention will vary according to the clinical facts of each case (Jonsen, Seigler, & Winslade, 2006, p. 15).
Plagiarised Version	There are three goals in medicine which offer clinicians the opportunity to cure sometimes, but comfort always. In fact, because diseases sometimes present with different clinical facts, medical treatment isn't always consistent.
Summarised	Treatments vary according to available clinical facts therefore one is able to offer comfort more often than cure (Jonsen, Seigler, & Winslade, 2006).
Proper Paraphrase	Jonsen, Siegler & Winslade (2006) use the old maxim, "Cure sometimes, support frequently, comfort always," to reflect the fact that medical intervention needs to include clinical facts as well as plans to provide palliation (Jonsen, Siegler, & Winslade, p. 15).

Paraphrasing Example 2

Types	Descriptions
Original Information	Although language is the main means of communication between peoples, so many different languages have developed that language has often been a barrier rather than an aid to understanding. For many years, people have dreamed of setting up an international, universal language which all people could speak and understand. The arguments in favour of a universal language are simple and obvious. If all people spoke the same tongue, cultural and economic ties might be much closer, and good will might increase between countries (Kispert, 2006, p.302).
 Plagiarised Version	Language is the <u>principle</u> means of communication between peoples. However, because there are <u>numerous</u> languages, language itself has <u>frequently</u> been a barrier rather than an aid to understanding among the world population. For many years, people have <u>envisioned</u> a common universal language that everyone in the world could communicate in. The reasons for having a universal language are clearly understandable. If the same language were spoken by all countries, they would undoubtedly become <u>closer culturally and economically</u> . It would probably also create <u>good will</u> among nations (Kispert, 2006).
 Proper Paraphrase	According to Kispert (2006), humans communicate through language. However, because there are so many languages in the world, language is an obstacle rather than an aid to communication. For a long time, people have wished for an international language that speakers all over the world could understand. A universal language would certainly build cultural and economic bonds. It would also create better feelings among countries.

Credits

1. [University of Manchester, UK](#)
2. University of Crete, Greece
3. [Nova South Eastern University, USA](#)
4. Western Sydney University, Australia
5. Higher Score, Canada
6. Middle East Technical University, Turkey



How to do Referencing

What is Referencing?

- ▷ It is a method used to demonstrate to your readers that you have conducted a thorough and appropriate literature search, and reading.
- ▷ Referencing is an acknowledgement that you have used the ideas and written material belonging to other authors in your own work.
- ▷ As with all referencing styles, there are two parts: citing, and the reference list

Why should I Reference?

Referencing is crucial to you to carry out successful research, and crucial to your readers so they can see how you did your research.

1. Accurate referencing is a key component of good academic practice and enhances the presentation of your work: it shows that your writing is based on knowledge and informed by appropriate academic reading.
2. You will ensure that anyone reading your work can trace the sources you have used in the development of your work, and give you credit for your research efforts and quality.
3. If you do not acknowledge another person's work or ideas, you could be accused of plagiarism.

Plus your lecturers are very keen to see good reference lists. Impress them with the quality of the information you use, and your references, and you will get even better marks.

Reference Style

It is essential that you find out from your lecturer which style of referencing your department uses.

Most colleges use the Harvard style, but the APA style (American Psychological Association) is often used in social science subjects, so please check!

This guide will cover the Harvard Style of referencing in detail

What is in-text Citation

When you use another person's work in your own work, either by referring to their ideas, or by including a direct quotation, you must acknowledge this in the text of your work. This acknowledgement is called a citation.

When you are using the Harvard style, your citation should include:

1. The author or editor of the cited work
2. The year of publication of the cited work

Examples of in-text References

One Author	Music is the universal language of mankind (Sam 2009) <i>OR</i> Sam (2009) stated that music is the universal language of mankind.
Two authors of same article	Music is the universal language of mankind (Sam and Kim 2010) <i>OR</i> Sam and Kim (2010) suggested that music is the universal language of mankind
Multiple authors of different articles with same meaning	Music is the universal language of mankind (Sam and Kim 2010, Jim <i>et al.</i> 2011) <i>OR</i> According to Sam and Kim (2010) and Jim <i>et al</i> (2011), Music is the universal language of mankind. <i>et al</i> – shortened version if there are more than 2 authors. Jim, John and Jack (2011) -> Jim <i>et al.</i> (2011)
Direct Quotations	According to Sam (2009, p.7) "Music is the universal language of mankind."
Secondary source	Sam (2009) as cited by Kim (2011, p.7) suggested that Music is the universal language of mankind.

Reference List

- You must include a list of all the references used in your text at the end of your assignment.
- This should appear on a separate page under the title References.
- The list should be in alphabetical order, using the surname of the author(s).
- Don't use numbers or bullet points.

Examples of Reference List (1/3)

Book	<ul style="list-style-type: none">• Author(s) surname plus initials in full. The names of all authors must be listed.• Year of publication in brackets.• Title in italics.• Volume number• Edition number if the book has more than one edition, followed by "edn." - Publisher's name - Place of publication.• Page numbers <p>Gould D., & Brooker C. (2008) <i>Infection Prevention and Control: Applied Microbiology for Health Care</i>, 2nd edn. Palgrave MacMillan, Houndsmill, pp.158-160</p>
Journal	<ul style="list-style-type: none">• Author(s) surname plus initial(s) in full. The names of the authors must be listed.• Year of publication in brackets.• Title of article.• Title of journal in full in italics.• Volume number in bold. Issue number in brackets, if given.• The number of the first and last pages on which the article appears in the journal <p>Goldsmith L., Skirton H., & Webb C., (2008) Informed consent to healthcare interventions in people with learning disabilities – an integrative review. <i>Journal of Advanced Nursing</i> 64(6), 549 - 563</p>

Examples of Reference List (2/3)

Video	<p>Same as "Book"</p> <p>Prentice Hall Real Nursing Skills Essentials DVD (2008) <i>Real Nursing Skills</i>. Prentice Hall, New Jersey</p>
Online Journal	<p>Same as "Journal" plus</p> <ul style="list-style-type: none">• Site/Path/File/Accession Number• Retrieved Date <p>Zwalen D., Hagenbuch N., Carley M., Recklitis C., & Buchi S. (2008) Screening cancer patient's families with the distress thermometer (DT): a validation study. <i>Psycho-Oncology</i>. Retrieved from www.interscience.wiley.com , DOI: 10.1002/pon.1320 on 9th Sep 2016.</p>
WWW	<ul style="list-style-type: none">• Author's surname plus initial(s) in full.• Year of publication in brackets.• Title in italics.• Publisher, if available.• Site/Path/File• Retrieved date <p>NICE (2006) <i>Methods for Development of NICE Public Health Guidance</i>. National Institute for Health and Clinical Excellence, London. Retrieved from http://www.nice.org.uk on 5th July 2010.</p>

Examples of Reference List (3/3)

Newspaper	<p>Author Year of publication (in round brackets) Title of article (in single quotation marks) Title of newspaper (in italics) Day and month Page reference</p> <p>Prince, R. (2010) 'Why food is costing us the earth', <i>The Times</i>, 30th August, p.18.</p>
eBook	<p>Author Year of publication (in round brackets) Title of book (in italics) Name of e-book collection (in italics) [Online] Available at [URL] Accessed date</p> <p>Smith, M., Davidson, J., Cameron, L. and Bondi, L. (2009) <i>Emotion, place and culture</i>. Ebrary [Online]. Available at: http://site.ebrary.com/lib/queensbelfast/docDetail.action?docID=10276597 (Accessed: 30th August 2012).</p>

Credits

1. [Queen's University of Belfast, UK](#)
2. [De Montfort University, UK](#)
3. [Lincoln University, New Zealand](#)
4. [John Hopkins University, USA](#)



How to Formulate Questionnaire

What is Questionnaire

- The primary purpose of a questionnaire is to help extract data from respondents.
- It serves as a standard guide for the interviewers who each need to ask the questions in exactly the same way.
- Questionnaires are also an important part in the data collection methodology.
- They are the medium on to which responses are recorded to facilitate data analysis.

Cover Letter

Whether you are posting or emailing your questionnaire the cover letter is an extremely important factor.

It is a good idea to think of the letter as an integral part of the questionnaire, since it is so crucial to the respondent's decision to fill it in or not.

Remember that there are basically three types of information that the cover letter ought to provide:

- It should state the purpose of the survey.
- It should explain why the recipient was chosen to participate in the survey.
- It should explain why the recipient ought to participate in the survey (i.e. what's in it for them).

That last point is especially important. Too often, mail questionnaires are prefaced with little more than a statement such as 'We would like to ask you to contribute your views'. People are seldom interested in what we would like.

Produce an Effective Cover Letter

There are essentially four types of approaches to use in a cover letter to entice participation. They have been summarized as follows:

- *Ego appeal*: Emphasizes how crucial the person's participation is to the study, how valuable that input will be- 'Your opinions are crucial to...'
- *Social utility*: Emphasizes how the person's input will aid others- 'Your response will enable other consumers to...'
- *Aiding the sponsor*: Emphasizes how input will benefit the sponsoring firm- 'We need your help if we are to...'
- *Combination approach*: Combines two or more of the above appeals- 'Your knowledge as a consumer can be used to aid other consumers...'

The most effective approach varies according to the firm sponsoring the survey.

The most effective appeal for a university seems to be 'social utility', whereas the 'ego' approach seems most successful for commercial sponsors.

Overall, the social utility approach seems to be the least successful.

Stages in Preparing Questionnaire

The following is a list of the stages in preparing a questionnaire.

- Decide on the content of the questions.
- Decide on the format for the responses.
- Decide on the wording of the questions.
- Decide on the sequence of the questions.
- Decide on the physical characteristics of the questionnaire.
- Pre-test, revise and then produce the final draft.

Do remember to always pre-test, or 'pilot', your questionnaire on a few friends or acquaintances. They must be the same general type of person as the intended respondents to the questionnaire.

Ask them if they have any recommendations or if they had any problems filling it in.

Research Title

Determinants of Cabin Crew Retention in London
Airlines

Questionnaire Design (1/2)

1. Classification questions

This group of questions are those used to classify the information once it has been collected. Classification questions check that the correct quota of people or companies has been interviewed and are used to make comparisons between different groups of respondents.

Most classification questions are behavioural and close ended and factual. These are:

Gender:

- 1. Male
- 2. Female
- 3. LGBT

Marital status:

- 1. Single
- 2. Married
- 3. Widowed
- 4. Divorced
- 5. Separated

Age (in years):

- 1. 15-28 yrs
- 2. 29-35 yrs
- 3. 36-50 yrs
- 4. 51 and more

Questionnaire Design (2/2)

2. Attitudinal questions

2.1 Address the variables identified in Literature Review and/or Research Questions for the research title

- Independent – *Leadership, Motivation*
- Intervening – *Job Satisfaction*
- Dependent – *Retention*

2.2 Likert Scale [\[See Lecture 5.2\]](#)

- Prepare 4-5 statements pertaining to each variable
 - Collective statements will represent “overall” attitude
- Decide attitude direction – Positive, Negative, Positive-Negative
- Positioning Statements - *Strongly agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1)*

Questionnaire List (1/4)

Independent Variable 1 - Leadership

Serial	Leadership Questionnaire	Choices (SD / D / N / A / SA)				
<i>In My Organization...</i>						
LD-1	My manager acts in ways that builds respect towards him/her	1	2	3	4	5
LD-2	My manager specifies the importance of having a strong sense of decision	1	2	3	4	5
LD-3	Leaders applies a degree of moral values and ethics	1	2	3	4	5
LD-4	Management gets staffs to look at the problems from many different angles	1	2	3	4	5
LD-5	Leaders assists overcoming the staff weakness in areas that needed further improvements	1	2	3	4	5

Questionnaire List (2/4)

Independent Variable 2 - Motivation

Serial	Motivation Questionnaire	Choices (SD / D / N / A / SA)				
<i>In My Organization...</i>						
MT-1	Management is confidence that goals will be achieved	1	2	3	4	5
MT-2	Organization offer staffs the opportunity for advanced training	1	2	3	4	5
MT-3	Staff personal career development is aligned with the company's goals	1	2	3	4	5
MT-4	Management provides access to relevant training and skill development	1	2	3	4	5
MT-5	Arranges social events for the employees (e.g. get together, paid holiday, annual dinner etc.)	1	2	3	4	5

Questionnaire List (3/4)

Intervening Variable - Job Satisfaction

Serial	Job Satisfaction Questionnaire	Choices (SD / D / N / A / SA)				
<i>Job satisfaction is achieved when....</i>						
JS-1	Promoted with regular intervals	1	2	3	4	5
JS-2	Have the pay raise cabin crew deserved, even if this means that some will have a higher raise than other colleagues	1	2	3	4	5
JS-3	Procedures for deciding on a pay/bonus/benefits are known by the employees	1	2	3	4	5
JS-4	Crews has a good spirit among the team	1	2	3	4	5
JS-5	Career development are seriously considered by superior management	1	2	3	4	5

Questionnaire List (3/4)

Dependent Variable - Retention

Serial	Retention Questionnaire	Choices (SD / D / N / A / SA)				
<i>In my organization the cabin crews.....</i>						
RT-1	Are committed when their career developed	1	2	3	4	5
RT-2	Seek appreciation by the company management	1	2	3	4	5
RT-3	Has the high status of occupation	1	2	3	4	5
RT-4	Wish to change job role intra-organization	1	2	3	4	5
RT-5	Are aware of not being able to get a better job	1	2	3	4	5

Credits

1. University of Leeds, UK
2. University of Hamburg, Germany